United States Patent and Trademark Office

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the

changes and/or additions be unacceptable to applicant, an amendment may be filed as

provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

2.   Authorization for this examiner's amendment was given in a telephone interview

with Peter Kraguljac (reg.38,520) on September 25, 2010.

3.   The applicant has been amended as follow:

1. (Currently amended) A method for monitoring the performance of a network including

at least one node that communicates with the network using a transaction- based protocol,

the method comprising: monitoring characteristics of transaction-based protocol

exchanges to and/or from said node; and deriving a plurality of different components

including round-trip network latency, TCP connect processing time by calculating a time

from when a SYN packet is sent by the node to a server until a time the server replies

with a SYN acknowledgment packet, web server processing time by calculating a time

from when the node sends an HTTP request until a time the server replies with an initial

HTTP reply, and remaining content time by calculating a time after the server replies

with the initial HTTP reply until a time when the node receives a final HTTP reply from

the server, in response to said monitoring; and wherein said deriving step includes

deriving and subtracting delays associated with processing by a further node

communicating over the network with said first-mentioned node.

 2. (Original) The method of claim 1 wherein the monitoring step includes monitoring

SYN bit acknowledgment.

3.(Original) The method of claim 1 wherein said monitoring step includes monitoring

TCP data packet acknowledgment.

4.(Original) The method of claim 1 wherein said monitoring step includes monitoring

TCP slow start turnaround.

5.(Original) The method of claim 1 wherein said monitoring step includes monitoring

TCP zero to non-zero window turnaround.

6. (Original) The method of claim 1 wherein said monitoring step includes monitoring

TCP FIN bit acknowledgment.

7. (Cancelled).

 8. (Original) The method of claim 1 wherein said monitoring and deriving steps are

performed at a plurality of network sites remote from said node, or co-located with said

node.

9. (Original) The method of claim 1 further including reporting said derived results.

10. (Original) The method of claim 9 wherein said reporting step comprises generating a

web page.

11. (Original) The method of claim 9 wherein said reporting step includes providing a

web-page-based report over said network.

12. (Original) The method of claim 1 wherein said monitoring and deriving steps are performed on a subscription basis.

13. (Original) The method of claim 1 wherein said monitoring step includes coupling a monitoring node to said network and operating the monitoring node in a promiscuous mode.

14. (Cancelled)

15. (Currently Amended) A method for subscription-based remote monitoring service, the method comprising: initiating a monitoring subscription over the internet after receiving a subscription payment, including obtaining at least one network address to be monitored; remotely monitoring, over said network, transactions involving said network address; and deriving a plurality of different components including, TCP connect processing time by calculating a time from when a SYN packet is sent by the node to a server until a time the server replies with a SYN acknowledgment packet, web server processing time, remaining content time, network latency and device latency in response to said monitoring; and wherein said deriving step includes deriving and subtracting delays associated with processing by a further node communicating over the network with said first-mentioned node.

16. - 19. (Cancelled)

20. (Currently Amended) A method of determining communications protocol latency including: monitoring TCP traffic between a server and a client; and using an initial exchange between said server and said client and TCP header flags to determine whether an initial HTTP reply is retransmitted; and calculating a plurality of different components including round-trip network latency, TCP connect time, TCP connect processing time by

calculating a time from when a SYN packet is sent by the node to a server until a time the

server replies with a SYN acknowledgment packet, web server processing time and

remaining content time; and further including continually calculating transport-to-

transport network latency to obtain minimum network latency for at least one TCP

session.

21. (Original) The method of claim 20 further including using retransmission time as time

to discount when calculating web server processing time.

22. (Original) The method of claim 20 further including using retransmission time as

time to discount when calculating TCP connect processing time.

23. (Cancelled).

24. (Original) The method of claim 20 further including using round trip network latency

as time to discount when calculating web server processing time.

25. (Original) The method of claim 20 further including using round-trip network latency

as time to discount when calculating TCP connect processing time.

26-28. (Cancelled).

29. (Currently Amended) A method for monitoring the performance of a wireless

network including at least one node that communicates with the wireless network using a

transaction-based protocol, the method comprising: monitoring particular characteristics

of wireless transaction-based protocol exchanges to and/or from said node; and deriving a

plurality of components including round-trip network latency, TCP connect processing

time by calculating a time from when a SYN packet is sent by the node to a server until a

time the server replies with a SYN acknowledgment packet, web server processing time,

remaining content time, and round-trip network latency in response to said monitoring;

and wherein said monitoring step includes: continually calculating network

retransmission time; and computing web server processing time and TCP connect time

and the number of packets lost, said computing taking into account said calculated

network retransmission time.

 30.(Original) The method of claim 29 wherein said monitoring step includes: receiving

requests and responses from at least one node located remotely from said receiver on the

network; isolating features of received requests and responses and logging times

associated with each; and calculating, in response to said logging, latency associated with

said network and latency associated with said node.

 31. (Original) The method of claim 29 wherein said monitoring step includes:

monitoring HTTP traffic flowing between a web server and a web client over the wireless

network; and using the web server's initial HTTP reply packet as the logical dividing line

for the web client to web server HTTP packet exchange, wherein said logical dividing

line is used to distinguish initial web server processing time from wireless network

transport time.

32. (Original) The method of claim 29 wherein said monitoring step includes using an IP

Header sequence number to help distinguish out-of-order TCP packets from retransmitted

TCP data packets each carrying HTTP data.

33. (Original) The method of claim 29 wherein said monitoring step includes using an

initial exchange between said server and said client and TCP header flags to determine

whether an initial HTTP reply is retransmitted.

34. (Cancelled).

35. (Original) The method of claim 29 further including using an HTTP initial request and reply to determine if the content of at least one web page hosted by the web server static or dynamic.

36. (Original) The method of claim 29 further including discounting at least one retransmitted HTTP Get or HTTP' Post request from said client as web server processing time.

4. Following is an examiner's statement of reasons for allowance:

With respect to claims 1-6, 8-13, 15, 20-22, 24-25, 29-33, and 35-36 the prior art of record, individually or in combination, fails to teach, suggest or render obvious the claimed invention in combination with specific amended limitations as recited in claims 1, 15, 20, and 29.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammy T. Nguyen whose telephone number is 571-272- 3929. The examiner can normally be reached on Monday - Friday 8:30 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **William Vaughn** can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/THANH TAMMY NGUYEN/

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